Alternative: Transfer Water Across Otowi Gage

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1. Summary of the Alternative

This alternative addresses the appropriation or purchasing of water rights above the Otowi Gage for subsequent use below the gage. It is closely related to two of the other alternatives under consideration by the Jemez y Sangre Water Planning Council: Purchase Surface Water Rights in the Marketplace and Reappropriate Water Above Otowi Gage up to the 1929 Condition (DBS&A, 2002a, 2002b). Under the Rio Grande Compact, New Mexico is required to deliver a portion of the flow of the Rio Grande measured at the Otowi gage, which is located in the central portion of the Jemez y Sangre Water Planning Region. The New Mexico Office of the State Engineer (OSE) generally does not allow surface water transfers across the gage because transfers could increase the amount measured at the gage, thereby increasing the amount of water that New Mexico must deliver to Texas. San Juan-Chama water can be moved across the gage because it is excluded from Compact calculations.

This alternative addresses the issue of appropriating or purchasing additional water above the Otowi gage for subsequent diversion or use below the gage. Because movement of water between the upper and lower portion of the regions is made difficult by the Compact requirements relative to the gage, the Otowi gage represents a barrier to flexible management of water in the region. This dividing line is problematic because the storage reservoirs (where additional water obtained for the region could be stored) are located above the Otowi gage, while the areas with highest predicted growth are below the gage. Finding a way to move water across Otowi gage would provide a new supply for growing urban demand by removing it from other uses either within the region or to the north of the region.

2. Technical Feasibility

The primary technical issue in transferring water from above the Otowi gage to below the gage is obtaining the hydrologic data necessary to track the transfer of the water for OSE and Compact accounting. As part of the water rights application, the applicant would be required to demonstrate that such an appropriation would not result in impairment of other water rights. In addition, the historical availability of the water supply must be demonstrated to ensure that the "wet" water will actually reach the desired "move to" location and not provide water to meet demands on over-appropriated streams (although this is not an issue on the mainstem of the Rio Grande, it is for the tributaries). The technical studies required to support a water rights transfer application are standard studies routinely conducted by water experts in the state.

3. Financial Feasibility

Much of the cost of this alternative is associated with any application to appropriate, transfer, or lease water rights. An appropriation for groundwater would likely require a regional groundwater model to demonstrate no impairment, which if developed only for this application, could be costly. The applicant would bear the burden of paying the legal and technical consultant costs necessary to complete the application process. Combined legal and technical studies to obtain OSE approval could possibly be completed for $100,000 to $200,000; however, if extensive modeling is required and/or contested legal issues are present, implementing this alternative could cost up to $1 million or more.

Other costs associated with this alternative are likely to be related to Rio Grande Compact compliance administration. These would include the burden on the applicant to prove that moving water across the gage does not impair Compact compliance or increase the amount of water that New Mexico is required to deliver to Texas.

4. Legal Feasibility

The State Engineer's administration of water right transfers in conformance with the Rio Grande Compact (ə 72-15-23 NMSA 1978 (1997 Repl.)) will affect the availability of water in the planning region. Under the Compact, which was agreed to by the States of New Mexico, Colorado and Texas in 1938, deliveries downstream are set under an inflow-outflow schedule. Deliveries to New Mexico from Colorado are calculated by upstream gages, pursuant to Article III of the Compact. Likewise, pursuant to Article IV, New Mexico's obligation to deliver water to the Rio Grande Project at Elephant Butte Reservoir is determined by reference to the index supply at the Otowi gage, which is located on the river at San Ildefonso Pueblo. Based on the quantity of flows measured at Otowi, the Compact establishes a delivery schedule of the amount of native flows that must be delivered to Texas at the Reservoir. (Imported San Juan-Chama water is exempt from the Compact's inflow-outflow requirements under Article X and may therefore be fully consumed anywhere in the Rio Grande Basin above Elephant Butte Reservoir.)

Because of the Otowi gage's role in determining delivery amounts, the State Engineer has a long-standing administrative practice of not permitting a change in point of diversion from one side of the gage to the other, whether permanent or by lease. Such a change would either increase or decrease flows measured at the gage, thereby altering the delivery requirement downstream unless a compensating adjustment were agreed to by the three states. In order to avoid proposing such adjustments, the State Engineer has simply treated the Rio Grande Basin below and above the gage as two distinct basins.

By contrast, the State Engineer has not expressed an official position regarding a change in the place of use of a water right from one side to the other. Therefore, piping water from a point of diversion above the gage to a place of use below the gage may be an option because an appropriator, piping water from his original point of diversion to another basin, is changing only the place of use of his water right, not the point of diversion.

Because the Otowi gage is located in the approximate middle of the Jemez y Sangre planning region, a critical question is how administration of water right transfers within, to, or from the planning region could affect water availability. Development of water resources has been, and is likely to continue to be, more significant below the gage than above as reflected by a higher price for water rights in the middle valley than on the mainstem in northern New Mexico. Therefore, it is reasonable to assume that any proposed transfer would be from above to below the gage.

Administrative prohibition of transfers across the gage has the effect of protecting against the net loss of water rights in northern New Mexico, including the planning region. Clearly, a ban on changes of points of diversion to the middle valley benefits that portion of the planning region above the gage. Although individual water right holders may not be able to market their rights to the highest bidder, the northern half of the region is likely better off because its existing water resources are not susceptible to predation by and export to the middle valley and because in acquiring additional water rights, it does not have to compete with Albuquerque and other middle valley users with their growing demands.

By contrast, the southern portion of the planning region, in particular the Santa Fe area, may have the distinct disadvantage of being in the middle valley basin or market, when points of diversion and regional distribution systems would more appropriately be located or engineered across the Otowi gage, or by a combination of diversions along the river, both above and below the gage. What may give the Santa Fe area some relief is the ability to change the place of use of a water right from above to below the Otowi gage. Under that scenario, water diverted above the Otowi gage could be piped and used south of the gage. Such flexibility would allow for distribution of water within the region where reasonably needed and would not limit the Santa Fe area to the middle valley market. On the other hand, for those not wishing to see reallocation of water within the region or within northern New Mexico generally, particularly from agricultural to municipal uses, transfers across the gage, even if limited to changes of place of use, could be troubling.

This issue has become important because the City and County of Santa Fe are actively studying the construction of a Rio Grande surface water diversion on San Ildefonso Pueblo

lands north of the gage. From the diversion facility, the diverted water would be pumped and used predominantly in the Santa Fe sub-basin, which is south of the gage. Although the use of San Juan-Chama water below the gage is explicitly allowed by Article X of the Compact, the question has arisen whether the place of use of northern, native rights could be changed to the Santa Fe area, even if the diversion point remains above the gage.

Change in place of use of a surface water right is governed by 72-5-23 NMSA 1978. The statute requires that a surface water transfer applicant demonstrate that (1) the transfer will not impair existing water rights (2) the transfer is not contrary to the conservation of water within the state, and (3) the transfer is not detrimental to the public welfare of the state (∋72-5-23 NMSA 1978 (1997 Repl.)).

The nonimpairment criterion is satisfied as long as the change in place of use does not impair existing water rights within the basin. To assure such nonimpairment, the policy of the State Engineer is to approve transfer of only the consumptive portion of a surface water right, as opposed to the entire diversionary amount including return flow. This standard is consistent with the trans-basin export statute, which provides for the diversion of surface water from one watershed to another (∋72-5-26 NMSA 1978 (1997 Repl.)). The statute allows a trans-basin transferor to " . . . take and use the same quantity of water, less a reasonable deduction for evaporation and seepage to be determined by the State Engineer" ∋72-5-26 NMSA 1978 (1997 Repl.)).

Satisfaction of the second and third requirements for a valid transfer (i.e., conservation and public welfare) is less clear, in part because these conditions were only recently (in 1985) made requirements by amendment to state law (see annotations to ∋72-5-23 NMSA 1978 (1997 Repl.)).

The public welfare requirement, in particular, is largely open-ended and undefined. Of the three transfer criteria, public welfare is the least understood. A precise definition of "public welfare" as it appears in the statute has not been articulated by the state legislature, the courts, or the State Engineer. Consequently, inter-basin transfers of water from above the Otowi gage to below the gage will be questioned on public welfare grounds.

During the 2001 state legislative session, two House Joint Memorials were passed on water rights transfers across the Otowi gage:

- House Joint Memorial 6 (45th Legislature, State of New Mexico, First Session 2001)
- House Joint Memorial 14 (45th Legislature, State of New Mexico, First Session 2001)

House Joint Memorial 6 supports and endorses the continuation of the State Engineer's policy of prohibiting surface water transfers from above the Otowi gage to below it. The Memorial's anti-transfer position is framed by public welfare concerns and is based on harm to acequia communities, local economies, and Compact delivery obligations caused by cross-basin Otowi transfers. Specifically, House Joint Memorial 6 states:

> It is detrimental to the public welfare of the state of New Mexico for the Office of the State Engineer or any other relevant state agency to approve water right transfer applications designed to move the point of diversion or place of use of water rights from above the Otowi stream gage to a new point of diversion or a new place of use below the latitude of the Otowi stream gage.

Thus, the Memorial is broader than the current State Engineer policy prohibiting cross-basin changes to points of diversion in that the Memorial objects to cross-basin changes in places of use as well.

House Joint Memorial 14 is virtually identical to House Joint Memorial 6, but in addition requests the State Engineer formalize a policy of prohibiting water rights transfers from above the latitude of the Otowi gage to below that latitude.

Although these memorials do not carry the force of law, they do represent a water allocation preference that must be taken into account. If a regional plan protects one portion of the planning region to the detriment of another portion, such a result must be carefully considered. In addition, because restrictions on the use of a water right may unduly interfere with exercise of a property right or could impermissibly infringe on interstate commerce, compliance with the U.S. Constitution's Fifth Amendment protections against takings (i.e., deprivation of the use and

enjoyment of private property without just compensation) and the Commerce Clause's protection of interstate commerce must be considered.

5. Effectiveness in Either Increasing the Available Supply or Reducing the Projected Demand

If water rights were transferred from areas outside the Jemez y Sangre region, then this alternative would increase the amount of water available to the region. If water within the region was transferred across the gage, the total amount available to the region would not change; however, some of the subregions would have access to water that is currently unavailable to them. Above the gage but within the region, 19,627 acres are irrigated with a consumption of 25,523 acre-feet (Duke, 2001). The amount of these water rights available for purchase is not known, and the Jemez y Sangre region may find that if transfers are allowed across the Otowi gage, it will be competing with other communities such as Albuquerque and Las Cruces for the same water rights.

6. Environmental Implications

Protestants are likely to raise two environmental issues related to water transfers:

- If the water moving across the gage is being transferred from an agricultural use to a municipal use, then the loss of recharge from unlined ditches could impair riparian species that rely on shallow groundwater. Additionally, the loss of agricultural lands would reduce the amount of incidental habitat and green space created in agricultural areas.

- The river flows may change locally due to transfers across the gage and up and down the river corridor, depending on locations of diversions and return flows. The location and direction of the transfer may positively or negatively affect river and tributary flows.

7. Socioeconomic Impacts

The Jemez y Sangre region of northern New Mexico is distinguished by its rural and agricultural character, predominantly Indian and Hispano population, localized land-based economies, and pockets of persistent poverty. In particular, its Indian and Hispano populations represent some of the most unique cultures in the world, products of a long history of continuous human habitation, adaptation, and cultural blending. Land-based Indian and Hispano cultures still thrive, carrying on centuries-old cultural traditions that include distinctive land-use and settlement patterns, agricultural and irrigation practices, natural resource stewardship practices, social relations, religious activities, and architecture. An example is the ancient acequia tradition, which is vital both as a sustainable irrigation system for subsistence and market agriculture and as part of the social glue that holds together rural communities.

The survival of these deeply rooted local traditions is essential for the continuity of rural culture and communities and, in turn, for the local tourism industry, which is built in large part upon the singular cultural and historical personality of the region. Preservation of these traditions is therefore an important consideration in determining the socioeconomic and cultural impacts of regional water planning.

While it might provide additional available water for urban needs, transferring water across Otowi gage could have a negative socioeconomic and cultural impact on rural water users depending on the location and direction of the transfer. However, the prior appropriation doctrine is designed to protect senior users such as acequias. In response to an application to appropriate water, the OSE would first have to determine that water is available in the region. If water were available, the applicant would have the burden of proving non-impairment. If circumstances exist where senior users would not be impaired and the application could be approved, the OSE would condition the permit such that senior users were protected. If impairment is inevitable, then the application would be denied.

If the system is not managed to protect priorities, this alternative would clearly have a negative socioeconomic and cultural impact on traditional water rights, agriculture, and communities in

the upper basin. Many upper basin acequia irrigators already perceive threats to their water rights from downstream municipalities and industries, and acquiring and transferring any water rights from above to below Otowi Gage will be viewed as a dangerous precedent and will be vigorously opposed. Acequias rely on a minimum flow of water for the necessary hydrological conditions to adequately deliver water to all water right owners on a ditch. Selling or leasing water rights out of an acequia imperils the entire system. Opening the upper basin as a water market for lower basin municipal and industrial interests could begin a piecemeal dismantling, one water right at a time, of the ancient acequia tradition and all its associated socioeconomic and cultural values. Recognizing the significance of this issue, the 2001 New Mexico Legislature sought to prohibit water right transfers (both diversion and place of use) from above to below Otowi Gage in House Joint Memorials 14 and 6.

An administrative protection such as the concept presented in the Joint Memorials is intended, in part, to protect the relatively low-income rural communities from having to fund the necessary legal and technical studies required if they want to protest a water right transfer. However, the prohibition of any transfer across the gage is contrary to Pueblo and other users' ability to use their water rights. Tesuque Pueblo, for instance, is located both above and below the latitude of the Otowi gage and may desire to divert water from above the gage and deliver it to the entire Pueblo.

Acequia representatives have indicated that before they will support any further discussion of water transfers, they would like the following protections to be in place:

- Area of origin protection against adverse effects on local communities
- Recognition of Acequia authority to veto a water transfer out of the Acequia
- Establishment of Acequia authority to create local water banks
- Development of a public welfare statement to address water transfers

8. Actions Needed to Implement/Ease of Implementation

A change in point of diversion across the Otowi gage would require a permit from the State Engineer and an agreement by the three compacting states to adjust delivery accounting. As noted in Section 4, there are no legal obstacles to such a transfer. Nonetheless, given the State Engineer's administrative policy (Section 1), the practical reality is that obtaining approval for a change of point of diversion would be difficult, requiring a court to overrule the policy.

Another hurdle would be objections from the area of origin that the change would be contrary to public welfare. In general, such an objection could not stop a transfer; however, an acequia may be able to successfully argue that the sale and transfer of historical agricultural rights from the acequia may render it unviable, depending on the facts, and thus contrary to the public welfare of the region. Establishment of area of origin protection could reduce the likelihood of protests against a transfer.

If the transfer involved a change of place of use, rather than point of diversion, across the gage, it might face fewer legal obstacles. If only that part of a water right that had been consumptively used above the gage was transferred below the gage, the Compact requirement should not be impacted. However, the same public welfare objections may apply.

9. Summary of Advantages and Disadvantages

An advantage of this alternative is that it could allow more flexibility to move water to areas of highest demand. Disadvantages are that it would require approval by three compact states, which may not be achievable without the intervention of the court, and that it could negatively impact the traditional community of the upper basin by creating more pressure for individual farmers to sell their rights.

References

Daniel B. Stephens & Associates, Inc. (DBS&A). 2002a. *Alternative: Purchase surface water rights in the marketplace.* White paper prepared for the Jemez y Sangre Regional Water Planning Council, Santa Fe, New Mexico. July 2002.

DBS&A. 2002b. *Alternative: Reappropriate water above Otowi Gage up to 1929 conditions*. White paper prepared for the Jemez y Sangre Regional Water Planning Council, Santa Fe, New Mexico. July 2002.

Natural Resources Committee. 1938. *Regional planning part VI - The Rio Grande joint investigation in the Upper Rio Grande Basin in Colorado, New Mexico, and* Texas, 1936-1937. United States Government Printing Office, Washington, DC.